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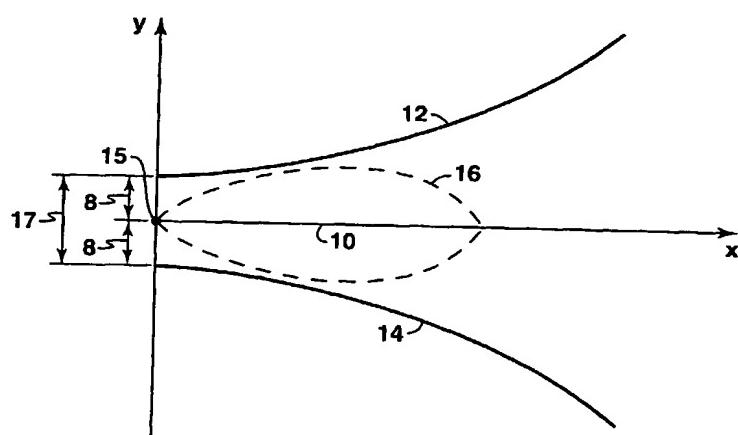
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[Continued on next page]

(54) Title: METHOD TO DETERMINE PROPERTIES OF A SEDIMENTARY BODY FROM THICKNESS AND GRAIN SIZE DISTRIBUTION AT A POINT WITHIN THE BODY



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(57) Abstract: A method to determine the properties of a water-lain sediment body (16) from a measurement of grain size distribution and deposit thickness at one location in the deposited sediment body. Using method modeling steps to determine the flow properties at the measuring location and extrapolating the flow properties back to the fluid inlet through which the depositing flow were emitted and providing computation steps for determining a property of the water-lain sediment throughout the sediment deposit body using modeling of the fluid properties with extrapolated flow properties at the inlet set as the boundary condition.

**Declarations under Rule 4.17:**

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)*
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ,*
- *OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)*
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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/08238

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : G01V 7/00
US CL : 702/002

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
U.S. : 702/002

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
EIC publications for sediment river bed deposits with modeling and geological reservoir features.

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
EAST with key word and terms for modeling steps.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5,646,342 A (Hagenes) 8 July 1997 (8.07.1997), see entire publication.	1-14
A	US 5,136,551 A (Armitage) 4 August 1992 (4.08.1992), see entire document.	1-14
A, E	US 2004/0260472 A1 (Deffenbaugh et al.) 23 December 2004 (23.12.2004), see entire document.	1-14
A, E	US 2004/0236511 A1 (Deffenbaugh et al.) 25 November 2004 (25.11.2004), see entire patent.	1-14
A	US 6,246,963 B1 (Cross et al.) 12 June 2001 (12.06.2001), see entire document.	1-14
A	US 5,844,799 A (Joseph et al.) 1 December 1998 (1.12.1998), see entire document.	1-14
A	US 4,821,242 A (Hennington) 11 April 1989 (11.04.1989), see entire patent.	1-14
A	US 6,205,402 B1 (Lazaae et al.) 20 March 2001 (20.03.2001), see entire document.	1-14
A	US 3,268,858 A (Winter) 23 August 1966 (23.08.1966), see entire document.	1-14

Further documents are listed in the continuation of Box C. See patent family annex.

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"&"

document member of the same patent family

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